

Research Article

Wetting the bed at twenty-one: Embarrassment as a private emotion

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Abstract

Embarrassment has been defined as a social emotion that occurs due to the violation of a social norm in public, which is appraised by others (what we call “public embarrassment”). We propose that embarrassment can also be felt when one violates a social norm in private, or when one appraises oneself and violates one’s self-concept (“private embarrassment”). We develop a typology of embarrassment with two underlying dimensions – social context (transgression in-public or in-private) and mechanism (appraisal by others or by the self). Of the four resulting categories, one fits with the dominant “social” view of embarrassment, whereas the other three have aspects of privacy. We generate triggers for public and private embarrassment and demonstrate their similarities in study 1. Study 2 (buying an incontinence drug) and study 3 (buying Viagra for impotence versus pleasure) replicate these similarities, and also exhibit differences in the experience of public and private embarrassment through accompanying physiological reactions, action tendencies, and behavioral consequences. Our aim is to expand the scope of embarrassment research to include private contexts and self-appraisal.

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Introduction

Sheila had been grocery shopping and bought several snacks. The bag ripped apart as Sheila was crossing the busy, high-traffic street after shopping and she was not able to pick up the groceries from the road. Embarrassed, she laughed to herself as she watched the cars drive by noticing her soda bottle, her chips and her pint of ice cream lying on the road.

Steve had issues with bedwetting well into his undergraduate years. Even though he had a private room in college, whenever he had an episode, he was privately embarrassed. David was considering taking an STD (sexually transmitted

disease) test. He was sitting on his bed browsing through websites for his options on his laptop. He finally made up his mind to purchase one of the home testing kits and placed his order. The product was going to be delivered in an enclosed package and he would be able to administer the test by himself at home.

In all the examples above, people reported feeling embarrassed. The first example is in a social context with people watching. The last two examples, however, are in a private context with no one watching – both the bedwetting and ordering the STD test kit are done in the privacy of one’s bedroom with no audience.

Embarrassment is defined as a social emotion arising from a deficiency in one’s presented self to others (Klass, 1990; Modigliani, 1968) and, as such, requires an audience. We suggest, however, that embarrassment can also be a private emotion and experienced without an audience. That embarrassment can be a

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private emotion, and be experienced without others present, is a slightly bigger claim than it first appears. Per prior research, embarrassment generally occurs following some type of transgression – “a violation of socially accepted boundaries or codes of conduct” (Goffman, 1956; Oxford Dictionary), which is then potentially observed and appraised by others. It is described as an aversive state that causes abashment and chagrin, and occurs in “social encounters” (Miller & Leary, 1992). We argue and demonstrate that embarrassment is an emotion that can also be experienced in private, without the presence of others – such as one may feel if one cannot get an erection while masturbating, or gets disqualified from an MTurk study because one could not answer a simple question. Even if not observed by others, the transgressions are still observed and appraised by the self. Thus, boundaries for transgressions can also be violations of one’s persona or self-concept.

Embarrassment is clearly an important emotion to understand. It has similar consequences to stress (Singh, Goolsby, & Rhoads, 1994) and people can go to great lengths to avoid feeling embarrassed (Miller & Leary, 1992), and can engage in compensatory behavior for coping with felt embarrassment (Leary & Kowalski, 1995; Miller, 1996). In the consumer behavior context, embarrassment may prevent a consumer from consuming a product or service or change one’s purchasing habits (e.g., Blair & Roese, 2013; Dahl, Manchanda, & Argo, 2001). However, embarrassment has received sparse attention in consumer psychology literatures (Dahl et al., 2001; Grace, 2009). We add to the understanding of embarrassment in multiple ways.

The overarching aim of the paper is in highlighting and bringing attention to the notion of embarrassment as a private emotion, and expanding the scope of embarrassment research to include private contexts with primary appraisal by self and to situations which exhibit self-concept violations, and not just violations of social norms. In working towards this goal, we first provide an overview and typology for embarrassment. This typology has two underlying dimensions. The first dimension relates to social context – whether the transgression causing embarrassment occurs in public or in private. The second dimension relates to the mechanism of embarrassment – whether the transgression is predominantly observed and appraised by others, or by oneself. Of the four resulting categories of embarrassment, one is consistent with the dominant social view of embarrassment (what we call “public embarrassment”) and the other three categories have elements of privacy (what we call “private embarrassment”).

We use prior literature to build our conceptualization of private embarrassment and to suggest that when having committed a transgression, even without others present, consumers may imagine others’ appraisal of the transgression (e.g., Dahl et al., 2001; Miller & Leary, 1992) or simply appraise themselves (Babcock, 1988). Study 1 generates triggers for public and private embarrassment and demonstrates that the felt emotion of private embarrassment is similar to public embarrassment. Studies 2 and 3 replicate the similarities found in study 1 in the contexts of purchasing an incontinence drug (study 2) and purchasing Viagra for importance or pleasure (study 3). These studies also demonstrate the differences in the experience of embarrassment

in public and in private in terms of accompanying physiological reactions, action tendencies (study 2), and behavioral consequences (study 3). The research has far-reaching implications since we find private embarrassment to be a naturally occurring emotion in typical purchase situations (e.g., online purchases) that has the potential to affect many facets of life.

Literature review and typology of embarrassment

We first present an overview of the prevalent social view of embarrassment and then discuss the literature supporting embarrassment as a private emotion. Following that, we present our proposed typology of embarrassment.

The dominant view: embarrassment as a public emotion

The extensive previous work on embarrassment describes it as a *social* emotion within an impression management paradigm (Goffman, 1955, 1956; Miller, 1995, 1996; Modigliani, 1968, 1971; Parrott & Smith, 1991; Sabini, Siepmann, Stein, & Meyerowitz, 2000). Building upon the earlier work of Goffman (1955, 1956), Edelman (1985) argues that embarrassment is a response to threats upon one’s public identity or social image that creates a concern for how one is being appraised by others. As such, embarrassment is a concern for one’s *public* image, as appraised by others.

The social view of embarrassment is also endorsed by the American Psychological Association which defines embarrassment as “*a self-conscious emotion in which a person feels awkward or flustered in other people’s company or because of the attention of others, as, for example, when being observed engaging in actions that are subject to mild disapproval from others*” (VandenBos, 2006). Research focus has not been on questioning the social view of embarrassment (an exception is Babcock, 1988, discussed in the next section), but on understanding the mechanisms through which it operates.

Models for the mechanism of embarrassment: appraisal by others in public

In our view, two models for the mechanism of embarrassment have been most influential: the ‘*social evaluation model*’ where negative evaluations from others trigger embarrassment because individuals are concerned about how others might evaluate them following a transgression (Manstead & Semin, 1981; Miller, 1996), and the ‘*loss of self-esteem model*’ where it is the loss of self-esteem resulting from these negative evaluations that results in embarrassment (Edelman, 1987; Modigliani, 1971). According to the second model, ‘esteem in the eyes of other’ affects ‘esteem in the eyes of self’ and the latter is what causes embarrassment. The two models diverge on whether the loss of situational self-esteem is necessary for embarrassment. In both of these models, the transgression occurs in the presence of others and it is others’ appraisal that drives embarrassment.

We next discuss the sparse literature that supports embarrassment as a private emotion.

Embarrassment as a private emotion

Appraisal by imagined others in private

While nearly all the literature on embarrassment assumes the (real) presence of others, a few researchers assert that embarrassment can occur even in the presence of ‘imagined’ others (Dahl et al., 2001; Edelman, 1981; Leary, 1995; Miller & Leary, 1992). Per Miller and Leary (1992), “embarrassment... occurs in real or imagined social encounters” (p. 204). These researchers contend that other people need not be physically present for embarrassment to occur in a specific situation and that imagined others will be sufficient. While this theoretical view has been proposed, it has not been empirically tested by social psychologists.

Interestingly, while there is little research on embarrassment in consumer behavior (see Dahl et al., 2001; Grace, 2009), the imagined presence view has been tested within a consumer behavior context. Dahl et al. (2001) looked at condom purchases in an empty restroom (with imagined social presence), and showed that the higher the imagined social presence, the greater the embarrassment. We propose and test that even when one does not imagine the presence of others, one can still feel embarrassed.

Appraisal by the self in public or in private

Babcock (1988) directly argues for a personal account of embarrassment where “...individuals define themselves in terms of specific personae, and these personae serve as self-imposed constraints on action. Embarrassment is characterized as an unpleasant response to the recognition that one has acted in a way that is inconsistent with one’s persona, i.e., that one has violated one’s personal standards...not a fear that he has failed or fumbled in the eyes of another. Thus, even though embarrassment may seem as if it requires an audience, it is essentially a private matter...” (p. 460). That is, the self can be the voyeur in experiencing embarrassment, and appraisal of the transgression (and therefore of the person) can be done predominantly by oneself – whether others are present or not.

The ‘persona’ or self-concept may be driven entirely by socially accepted norms or may be established by the individual as influenced by or independent of social standards. The key distinguishing characteristic here of private embarrassment is the appraisal of the situation primarily by the self (vs. concern around appraisal by others). While Babcock (1988) has provided this alternate definition of embarrassment, there is little empirical work to corroborate it. In his conceptualization of the ‘loss of self-esteem model’ for embarrassment, Modigliani (1971) also notes that “originally, it was posited that loss of situational public esteem was a necessary condition for embarrassment... (but, there is) a possibility that loss of situational self-esteem may, after all, be a sufficient condition for embarrassment...” (p. 22). Thus, while multiple researchers have suggested that there is reason to believe that situational loss of self-esteem may be a sufficient condition for embarrassment, the argument needs to be developed further, and to be tested.

A typology of embarrassment

The foregoing literature allows us to build a typology for public versus private embarrassment. A transgression being seen and appraised by others requires the presence of another – i.e., it happens in public. However, the transgression being appraised by imagined others or by the self does not need a real audience – it can happen in public or in private. This gives us two underlying factors for a typology of experienced embarrassment – “social context: in-public versus in-private” and “mechanism: whether the transgression is primarily appraised by others (real or imagined) or by the self”, resulting in four viable categories (see Table 1).

Let us briefly discuss these four categories to see how they differ. Category 1 is “in-public – with appraisal by others, whether real or imagined”. It includes those situations in which an experience happens in a public context and the primary mechanism driving the feeling of embarrassment is appraisal by others (this is the dominant view of embarrassment and we call this “*public embarrassment*”). Note that category 1 also includes transgressions in public that are not noticed by others, but the transgressor can imagine others noticing it and appraising it – this has not had focused attention in prior research. The remaining three categories (categories 2–4) have elements of embarrassment as a private emotion, either because there is no audience, or because even when there is an audience, the appraisal of the transgression is predominantly done by the self (we call these “*private embarrassment*”).

Category 2 is “in-private – with appraisal by imagined others”. Here, an embarrassing incident occurs in private, but concern for appraisal by ‘imagined’ others is the dominant cause of embarrassment. The primary focus is on others’ appraisal and less on one’s own appraisal of the self. This category has received some attention in previous research (Dahl et al., 2001; Miller & Leary, 1992). In both categories 3 and 4, the primary driving mechanism is “appraisal by the self” which may be caused by a violation of social norms or a violation of one’s own self-concept. While in category 3, the transgression occurs in public, in category 4, it occurs in private. Thus, in category 3, the transgression occurs in the presence of others who do not notice it, and one does not imagine them noticing it either; but the transgressor herself notices it. In category 4, the transgression occurs in private and the transgressor does not imagine anyone seeing it, but she herself notices it. These two categories have received no focused attention in the literature thus far.

If you are buying condoms in a public restroom as in Dahl et al.’ (2001) study, there could be other people in the rest room and you might be concerned about their appraisal of this behavior (category 1). However, if you buy condoms in an empty restroom or online from the privacy of your own home, it is unlikely that someone will see you; yet you might imagine how others could appraise your behavior (category 2). Whether others are present (category 3) or not (category 4), your embarrassment may be driven, not necessarily by others’ possible appraisal, but predominantly by your own personal conceptions about the inappropriateness of buying condoms. In

Table 1
A typology of embarrassment. *

Mechanism: primary appraisal of transgression	Social context	
	In-public: there are others present.	In-private: there are no others present.
Appraisal by others (real or imagined)	Category 1: You have an embarrassing incident in public which is: i) seen and appraised by others (dominant view) [Nearly all the embarrassment literature is focused here.] ii) not seen or appraised by others, but you imagine them doing so. Basis of appraisal: Violation of social norms [No focused attention.]	Category 2: You have an embarrassing incident in private but you imagine others appraising the incident. Basis of appraisal: Violation of social norms [Has received little research attention.]
Appraisal by self	Category 3: You have an embarrassing incident in front of an audience that does not notice it and you do not imagine them noticing it, but you are embarrassed anyway because you notice it and appraise yourself. Basis of appraisal: Violation of social norms or self-concept [No focused attention.]	Category 4: You have an embarrassing incident in private; you do not imagine anyone knowing about it, but you are embarrassed anyway because you notice it and appraise yourself. Basis of appraisal: Violation of social norms or self-concept [No focused attention.]

* Consistent with prior definitions, we define public embarrassment to mean embarrassment in a public context that is both seen and appraised by others (category 1); we define private embarrassment as embarrassment when others are not present (categories 2 and 4) or when the audience present does not observe the embarrassing transgression and you do not imagine them observing it (category 3).

these latter instances (categories 3 and 4), embarrassment may be driven by either a violation of a social norm or a violation of your own self-concept.

As stated earlier, while much empirical work has shown embarrassment arising in category 1, little empirical work has been done to test for embarrassment in categories 2–4. We want to bring attention to these three categories all of which entail elements of privacy.

Besides proposing and testing that private embarrassment exists and is consistent with our typology, we also want to examine similarities and differences between public and private embarrassment. Is embarrassment felt with the same intensity as in situations where the transgression has been observed versus not? Are the behavioral consequences of public versus private embarrassment similar? Do public and private embarrassment differ in terms of their mechanisms, accompanying physiological reactions, and action tendencies?

Note that oftentimes, shame and embarrassment are confused and many researchers have focused on differentiating them conceptually (Babcock & Sabini, 1990; Miller & Tangney, 1994; Tangney, Miller, Flicker, & Barlow, 1996). Miller and Tangney (1994), for instance, state that “whereas embarrassment result(s) from surprising, relatively trivial accidents, shame occur(s) when foreseeable events reveal one’s deep-seated flaws...” (p. 273). Previous research also suggests that “the root of the differences lies in the nature of the shame- versus embarrassment-eliciting events: shame has moral implications, but embarrassment does not...” (Buss, 1980, p. 161). Given that a multitude of emotions are generally experienced simultaneously by humans at any given time (Ortony, Clore, & Collins, 1988), in empirical work, embarrassment and shame are found to coexist but with the one being felt more intensely in any given context (Kaufman, 1989).

We next present our three studies. Study 1 focuses on similarities between public and private embarrassment. Studies 2

and 3 focus on differences between public and private embarrassment, but also replicate the similarities found in study 1.

Study 1: Wetting the bed and other triggers of public and private embarrassment

This study has two goals. First, we want to see if support exists for our typology of embarrassment – if people feel embarrassment due to triggers that fall into all four categories of our proposed typology. Second, we want to test if embarrassment in private is similar to that felt in public – whether the intensity of embarrassment felt and its accompanying emotions (such as shame) are equivalent.

Design and procedure

We recruited U.S. residents from a large online panel ($N = 177$; $M_{age} = 37$ years, 61.6% female). Participants were asked to provide detailed written accounts of two embarrassing experiences – one where they felt publicly embarrassed and another where they felt privately embarrassed. Similar to Tangney et al. (1996), the narrative portion of the questionnaire instructed participants to “...think of a real experience in which you felt publicly (privately) embarrassed. In other words, was there any experience that made you feel embarrassed in the presence of others (even when no one else recognized this embarrassment)?”

For both of the (within-subject) conditions, participants were asked to recall and provide as many details of the experience as possible. To help them recapture vivid memories of the experience, additional prompts were provided (Shaver et al., 1987; see Fig. 1 for the flowchart of the procedure). After each written narrative, participants completed a structured questionnaire related to the specific experiences they described. Finally, all participants completed demographic measures (e.g., age, gender).

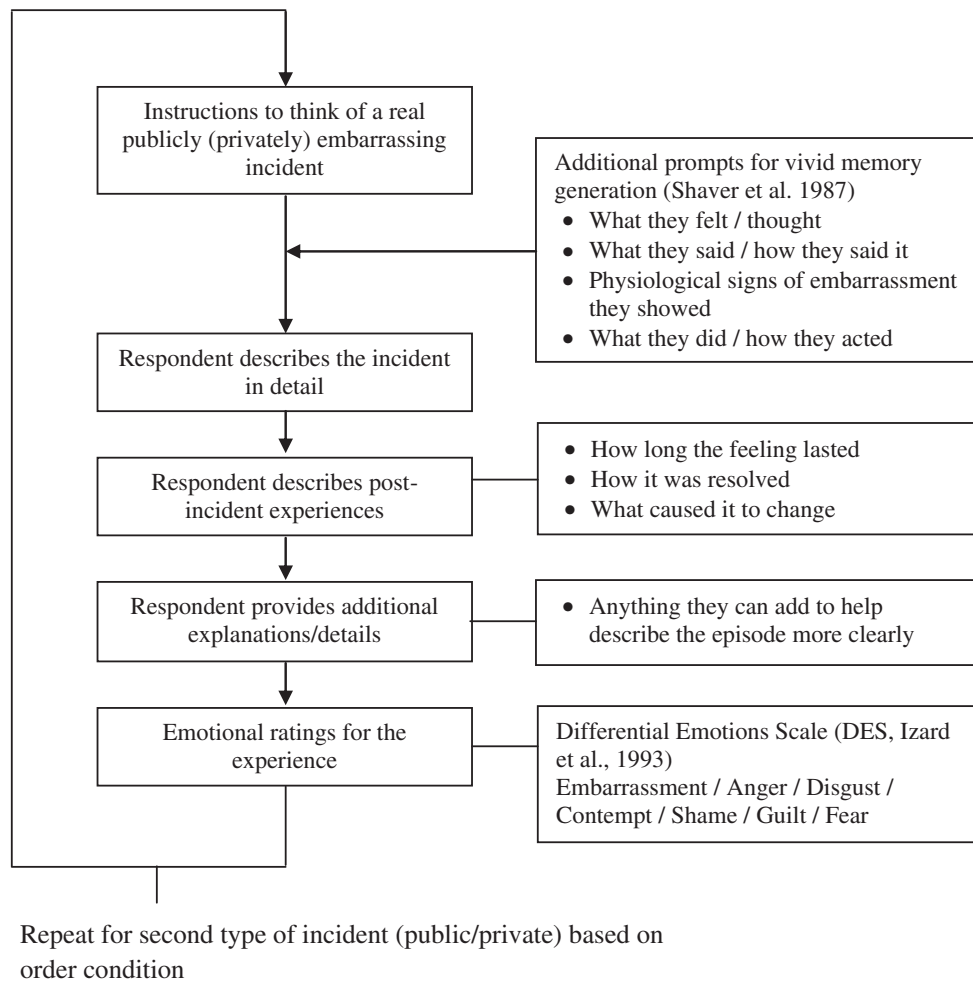


Fig. 1. Study 1 process.

Dependent variables

Remembered emotions

After reporting publicly and privately embarrassing past experiences, participants indicated how much they had felt a set of emotions while experiencing the transgressions they described. The listed emotions included embarrassment and six of the emotions noted by Izard, Libero, Putnam, and Haynes (1993) in their Differential Emotions Scale (DES). The six emotions are often measured in conjunction with embarrassment (anger, disgust, contempt, shame, guilt, and fear; Tangney et al., 1996). These emotions were recorded on 5-point scales anchored at “not at all / a lot”. Gender was included as a control measure since prior research has shown it to significantly affect intensity of embarrassment (e.g., Parrott, Sabini, & Silver, 1988), even though we do not expect gender to differentially impact private versus public embarrassment.

Categorizing experiences into our typology of embarrassment

Two raters, blind to the prompts of public versus private context, coded the 354 experiences (two experiences for each

of the 177 participants) on the two dimensions of our typology: social context (in-public vs. in-private) and observation and appraisal of transgression (primarily by others – real or imagined vs. primarily by the self). There was a convergence on categorization for 349 of the experiences (98.6%) and the rest were resolved through a discussion among the raters.

Results

Embarrassing experiences and the proposed typology of embarrassment

First, the experiences that participants reported did indeed fall into all four categories of our typology (see Tables 2a and 2b). With the prompt to report a publicly embarrassing experience, participants did report experiences that belonged mostly in category 1. Of the 177 experiences, 164 or 92.7% occurred in front of an audience where others noticed the transgression or the individual was concerned that they could have, while only 5 (less than 3%) fell in the other three categories (see Table 2a). With the prompt to report a privately embarrassing experience, 89 of 177 or 50.3% of experiences

reported fell into categories 2–4, and 83 (46.9%) of the experiences reported fell in category 1 (see Table 2b). The high incidence of examples falling into category 1 could stem from the lay understanding of embarrassment as one that occurs in the presence of others. For our analysis, we only consider those experiences that correctly fall into the public (private) categories when the corresponding prompts are used.

Some examples of embarrassing experiences that participants reported are interesting in themselves and a sample of these are given in Table 3.

Intensity of embarrassment and other emotions in public versus private experiences

Looking at participants' scale ratings of felt emotions, we find that embarrassment is the most intensely felt emotion in all four categories (see Table 4). This is what we would expect since we asked participants to report embarrassing experiences. Besides comparing the mean intensity of embarrassment with the public versus private prompts, we also compare the intensity of public versus private embarrassment (category 1 vs. categories 2–4) within participants, using gender as a covariate. For this, we ran a repeated measures ANCOVA with intensity of reported embarrassment as the dependent variable, prompt (public/private) as the repeated factor and gender as the covariate. The results show that the repeated factor (public vs. private categories) is not significant ($p > .6$) implying that the intensity of embarrassment felt by an individual when recalling a private experience is similar to what she experiences when recalling a public experience. Gender also did not have a significant effect ($p > .5$).

We also looked at the other emotions (anger, disgust, contempt, shame, guilt, and fear) participants felt when they reported a publicly or a privately embarrassing experience (DES, Izard et al., 1993). We do not find any significant differences in the intensity of emotions across public and private categories (all p 's $> .3$; see Table 4). This implies that the same individual felt the various accompanying emotions (to embarrassment) with the same intensity when recalling a public or a private embarrassment experience. Repeated measures ANCOVAs for these accompanying emotions also give similar results.

Discussion

The lay understanding of embarrassment appears to be about discomfort in a public context with others present. As such, in

Table 2a
Study 1: Embarrassing transgressions.
Transgressions reported in our typology categories with the “public” prompt*.

	In-public: there are others present	In-private: there are no others present
Appraisal by others (real or imagined)	N = 164	N = 0
Appraisal by self	N = 5	N = 0

* N = 8: unable to code because 1) participants did not list an embarrassing transgression or 2) if they did, details they provided were too vague to code.

Table 2b
Study 1: Embarrassing transgressions.
Transgressions reported in our typology categories with the “private” prompt*.

	In-public: there are others present	In-private: there are no others present
Appraisal by others (real or imagined)	N = 83	N = 21
Appraisal by self	N = 39	N = 29

* N = 5: unable to code because 1) participants did not list an embarrassing transgression or 2) if they did, details they provided were too vague to code.

this study, we directly asked participants to provide examples of both public and private embarrassment. We wanted to see if they would be able to generate examples of private embarrassment without others present. We find that they are indeed able to do so. Instances of embarrassment recalled are found to be consistent with the proposed typology, that is, they fall into all four categories of embarrassment suggested by our typology. More importantly, we show that the intensity of embarrassment and other accompanying emotions arising from the triggers in the categories with aspects of privacy is similar to that felt in the public category.

In our next two studies, we test how public and private embarrassment may differ.

Study 2: Incontinence and differences between public and private embarrassment

Public and private embarrassment appear to be quite similar at first glance. Our first study shows that they lead to similar intensity of self-reported embarrassment and accompanying emotions. But, what distinguishes public and private embarrassment?

In attempts to differentiate between emotions, prior research uses dissimilarities in the *physiology of the emotions* (e.g., Gray, 1990; Smith & Ellsworth, 1985) as well as *action tendencies* (e.g., Frijda, 1987; Roseman, Wiest, & Swartz, 1994). How do public and private embarrassment map on to these potential differences? Previous research on embarrassment (as a social emotion) typically finds an accompanying set of physiological reactions such as blushing or increased heart rate (e.g., Tangney et al., 1996). It has been argued that physical manifestations of felt emotions arising from negative social encounters have evolved as a signal to others about how one is feeling (Goffman, 1956; Semin & Manstead, 1982). The display of the emotion “serves to indicate to observers that the witnessed transgression is an exceptional occurrence” (Semin & Manstead, 1982, p. 369) and that “while the actor cannot present a sustainable and coherent self on this occasion, he is at least disturbed by the fact and may prove worthy at another time” (Goffman, 1956, p. 270). As such, we posit that these reactions are more dependent on the presence of others, similar to Shearn, Bergman, Hill, Abel, and Hinds (1992), and we expect *embarrassing situations that take place in private to*

Table 3
Study 1: Examples of embarrassing transgressions generated by participants.

	In-public: there are others present	In-private: there are no others present
Appraisal of transgression by others (real or imagined)	<ol style="list-style-type: none"> 1. I was embarrassed when I my skirt blew up while I was crossing Main Street. My face turned very red and I almost started crying. 2. I recently had to give a speech in one of my classes about sex. I randomly drew the topic out of a cup and I had to talk for 2 minutes about it. I didn't look embarrassed, but on the inside I was. I picked the most embarrassing topic to talk to a lot of young adults about. 3. I called someone by the wrong name but they didn't hear me. I was mortified because he is an African American friend and the other guy is an African American too and I am white. I was worried he'd think I was being racist. Luckily he didn't hear me make the gaffe. I blushed and my heart rate sped up. I began mumbling. 	<ol style="list-style-type: none"> 1. One time at school when I was walking down the hall I tripped on my shoe lace and fell. No one was around but I still felt embarrassed. I walked away as fast as possible. 2. I was looking at my grades and saw that I received all B's for the semester. I was way too embarrassed to tell anyone in my family. 3. I spilled a glass of fruit juice on a white carpet at my friend's house. I got really hot and sweaty and felt nervous. I grabbed the chair and moved it over the stain and didn't say a word.
Appraisal of transgression by self	<ol style="list-style-type: none"> 1. I went to the movies once... by myself. I'm sure no one knew I was there but I felt like everyone was watching me the whole time. I forced myself to stay but didn't really enjoy my time there. I was feeling very embarrassed to be the one who had to go to the movies alone. I was in public but no one really knew I was there... the feelings were very private. 2. I couldn't find my car in pouring down rain at Walmart. I literally upped and down every row. I finally found it in the opposite direction where I exited the store. 3. I was talking to someone and instead of saying "started", I said "stawted", pronouncing my "r" as a "w". I corrected myself, but I was embarrassed. I don't think I showed signs of embarrassment, and the person I was talking to was oblivious. 	<ol style="list-style-type: none"> 1. I was playing an online game. I looked at the scoreboard and my name was at the top. I thought this meant that I had the highest score. I thought this for a few hours. I was very proud of myself. I thought I must be a real genius to have played such a short amount of time and already have the top score. After a while I realized that I did not have the top score and my name was at the top just to show me my score. 2. I keep track of my significant other's phone calls and one day there was a call that I could not identify and I was ready to confront him about it. I was getting very upset as I waited for him to come home and feeling angry because of an incident last year where he was calling a co-worker outside of work. Before he came home I looked through my phone and discovered it was my son's phone number. What a mistake it would have been to accuse him when it was my own son's number. I felt embarrassed, but very relieved at the same time. 3. I had issues with bedwetting far longer than was healthy. Whenever I had an episode like this later in life, I was privately embarrassed that it had happened. I felt childish and out of control of my own life. I would think about and wonder why this was still happening.

show relatively less intense physiological reactions than those that take place in public contexts.

Similarly, public embarrassment is characterized with an action tendency of escaping the situation (e.g., Leary & Kowalski, 1995). Since such an escape is less likely when in private, we expect this tendency to flee the situation to be lower for in-private versus in-public contexts.

Another important facet of embarrassment is its perceived long-term effects (e.g., Tangney et al., 1996). One such long-term effect can be a desire for preventing such an experience in the future. Duval and Wickland (1972) describe appraisals of oneself to be characterized by greater self-awareness, compared to appraisals by others. Accordingly, with self-appraisal there is greater internalization of felt emotions. Hence, we propose that *self (versus other) appraisal should lead to a more self-aware experience of embarrassment, higher internalization, and hence a greater desire to avoid a similar experience in the future.*

Study 2 focuses on these proposed differences in physiological reactions and action tendencies between public and private embarrassment. Study 2 uses an imagination-based product purchase scenario manipulating two factors for a 2 x 2

between-subjects design: context (in-public vs. in-private) and appraisal (self- vs. other-), the two dimensions of our embarrassment typology.

Design and procedure

We recruited 124 U.S. residents from a large online panel for the study ($M_{age} = 35$ years; 53.7% female). One participant was removed as her personal medical history related to the scenario. All participants passed the attention check procedures.

We conducted a two-way between-subjects design. First, we manipulated appraisal (self- vs. other-). Prior to the focal study, all participants were instructed to complete an "unrelated" task, where they wrote detailed explanations about either their own or others' evaluations of themselves (see Table 5a for detailed instructions). Two independent coders evaluated the open-ended responses and determined that participants did, in fact, complete the task as directed – evaluating themselves as a person (self-appraisal) or what others think of them (other-appraisal). We found no differences in time taken on the writing task ($p > .9$)

Table 4
Study 1: Intensity of felt emotions in public versus in private.

Emotion	In-public (Category 1)	In-private (Categories 2 – 4)	Within-subject difference across in-public and in-private
Embarrassment	4.32	3.93	$p > .2$
Shame	3.48	3.22	$p > .6$
Disgust	2.72	2.85	$p > .9$
Guilt	2.59	2.51	$p > .9$
Anger	2.81	2.62	$p > .8$
Fear	2.38	2.43	$p > .3$
Contempt	2.40	2.39	$p > .6$

* $p < .01$ for all correlations.

or number of words written ($p > .2$), indicating no difference in involvement across conditions.

Next, we created a potentially embarrassing purchase experience scenario to manipulate purchase context where the product was an over-the-counter medication for incontinence (i.e., for involuntary leaking of urine). Participants were given a general description of the scenario, which aimed to make the imagined experience as real as possible. Depending on their randomly assigned condition, participants read about a drug purchasing experience through a *physical drugstore* versus an *online drugstore*, (in-public vs. in-private purchase context; see Table 5a for detailed scenarios). In order to make sure that the participants carefully read the scenario and to help them really imagine the situation, they were also asked to close their eyes and think of themselves in this experience (Gale, Morris, Lucas, & Richardson, 1972). Following the imagination experience, participants responded to a series of dependent measures, and provided demographic information as in study 1.

Dependent variables

Embarrassment

We first measured ‘intensity of embarrassment felt’ using a three-item scale (Dahl et al., 2001) anchored at 1 = “not at all” and 7 = “very much” (embarrassed, awkward, uncomfortable; $\alpha = .96$).

Physiological reactions and action tendencies

Participants then responded to items meant to capture the physiology of the emotion and the action tendencies following the emotion (7-point scales anchored at “not at all likely” and “very likely”). For *physiological reactions*, we used two measures: “I would feel my face turning red” and “I would feel blood rushing through my body” ($r = .81$; $p < .01$). For *escape action tendencies*, we used three measures: “I would want to leave the scene”; “I would want to hide from everyone” and “I would want to get away from the situation” ($\alpha = .91$). For *preventive action tendencies*, we measured how much

participants thought they “should do everything to never be in this situation again.”

Results

Means for all measures are reported in Table 5b.

Embarrassment

We ran an ANCOVA using the three-item embarrassment measure as the dependent variable, purchase context (in-public vs. in-private), appraisal (self- vs. other-) and their interaction as the independent variables. As in study 1, we included gender as a covariate. The intensity of embarrassment felt was not significantly affected by purchase context (in-public versus in-private; $p > .17$), appraisal (self vs. other; $p > .2$), or their interaction ($p > .6$). Similar to study 1, gender did not significantly affect intensity of embarrassment ($p > .8$). This replicates the results of study 1 showing the similarities between public and private embarrassment.

In study 1, we asked subjects to report embarrassing situations that occurred in private contexts and then measured embarrassment. Here, we manipulated purchase context and predicted that an in-private situation – a situation where one buys an incontinence drug online – would still result in embarrassment. As we predicted, even the manipulated in-private situation resulted in felt embarrassment. Furthermore, the intensity of embarrassment felt was not different for the in-private versus in-public context (similar to study 1); nor was it different whether appraisal was done primarily by oneself or by others (either real or imagined). These results indicate online purchasing is not a full solution to eliminate purchase embarrassment.

Physiological reactions and action tendencies

We ran a series of ANCOVAs with physiological reactions and escape and preventive action tendencies as the dependent variables, purchase context (in-public vs. in-private) and appraisal (self- vs. other-) as the independent variables, and gender as the covariate. We found, as we predicted, that the in-public (vs. in-private) context was characterized with stronger physiological reactions (i.e., face turning red) ($M_{In-Public} = 3.97$; $M_{In-Private} = 2.97$; $F(1,118) = 6.98$; $p < .01$) and increased escape action tendencies (i.e., likelihood to want to escape the situation) ($M_{In-Public} = 4.48$; $M_{In-Private} = 3.56$; $F(1,118) = 5.98$; $p < .02$). Self- vs. other- appraisal had a marginal effect on physiological reactions ($M_{Self-Appraisal} = 3.79$; $M_{Other-Appraisal} = 3.14$; $F(1,118) = 2.97$; $p < .1$), and did not significantly affect escape action tendencies ($p > .15$). The interaction of the two independent variables did not affect either physiological reactions ($p > .9$) or escape action tendencies ($p > .3$).

Also, as predicted, self-appraisal led to stronger preventive action tendencies (intentions to avoid future similar situations) compared to other-appraisal ($M_{Self-Appraisal} = 4.36$; $M_{Other-Appraisal} = 3.52$; $F(1,118) = 4.22$; $p < .05$). In-public vs. in-private purchase context ($p > .4$) or its interaction with appraisal ($p > .17$) did not affect preventive action tendencies.

Table 5a
Study 2 instructions and scenarios.

The study had two steps.	
STEP 1	
For conditions where appraisal of transgression was by the self	For conditions where appraisal of transgression was by others (real or imagined)
Please take 3 minutes to write down your overall evaluations of yourself as a person. What kind of a person do you think you are? Do you find yourself observing and evaluating your own daily actions? Can you give an example?	Please take 3 minutes to write down what you think others' overall evaluations of yourself as a person are. What kind of a person do you think they believe you are? Do you find yourself being observed and evaluated by others on your daily actions? Can you give an example?
STEP 2	
Purchase context: Imagine that you have been experiencing incontinence (involuntary leaking of urine, especially when you cough, sneeze, or laugh). The problem does not reflect any larger medical issues, but loss of bladder control still has a major impact on many aspects of your life. Fortunately, there are ways to both combat the problem and deal with symptoms. Overactive bladder treatment has many approaches, from medication, to behavioral changes, to a combination of both. You saw a recent commercial for Oxytrol, an over the counter medication that treats adult incontinence.	
In-public context: in-store	In-private context: online
You go into a drugstore in a shopping mall to purchase the medication, which promises to help prevent the uncontrollable muscle contractions that can lead to overactive bladder and leaking. You complete the transaction.	You are shopping online for the medication, which is available over the counter. You order the medication which promises to help prevent the uncontrollable muscle contractions that can lead to overactive bladder and leaking. Your order arrives and you open the box in the privacy of your home.

The gender covariate was not significant for any of the dependent variables (p 's > .4).

Discussion

This study provided several important contributions. Consistent with study 1, we showed that consumers report similar levels of embarrassment across in-public and in-private purchase contexts, and also across self- and other-appraisal. However, we also found differences between in-public and in-private contexts. Embarrassment from an in-public (vs. in-private) context led to stronger physiological reactions that are typically linked with (social) embarrassment (i.e., face turning red) and increased desire to escape the situation (escape action tendency). Participants' desire to escape an embarrassing situation for an in-public context suggests that simply removing oneself from the situation makes the negative emotions dissipate; but for embarrassing situations experienced within an in-private

context, one cannot easily "escape" the embarrassment. Other-versus self-appraisal did not affect physiological reactions or escape action tendencies, but we did find that self-appraisal leads to stronger preventive action tendencies (intentions to avoid future similar situations) compared to other-appraisal. This suggests that while differences in appraisal do not lead to immediate action tendencies, they may lead to greater self-awareness, internalization and longer-term effects.

While, as predicted we find that a public (versus private) context significantly increases physiological reaction after an embarrassing transgression, we also find a marginal effect for self (vs. other) appraisal. Perhaps the greater self-awareness caused by self-appraisal, as reflected in preventative action tendencies, also increases physiological reactions (Katsarou-Katsari, Filippou, & Theoharides, 1999). This needs to be explored more in future research.

While study 2 focuses on differences between public and private embarrassment in terms of physiological reactions and

Table 5b
Study 2 results.

	In-public context: in-store	In-private context: online
Appraisal of transgression by others (real or imagined)	n = 27 M (embarrassment) = 4.54 M (physiological reactions) = 3.63 M (escape action tendencies) = 4.04 M (preventive action tendencies) = 3.07	n = 30 M (embarrassment) = 4.17 M (physiological reactions) = 2.65 M (escape action tendencies) = 3.44 M (preventive action tendencies) = 3.97
Appraisal of transgression by self	n = 34 M (embarrassment) = 5.17 M (physiological reactions) = 4.31 M (escape action tendencies) = 4.94 M (preventive action tendencies) = 4.47	n = 32 M (embarrassment) = 4.48 M (physiological reactions) = 3.28 M (escape action tendencies) = 3.66 M (preventive action tendencies) = 4.25

action tendencies, study 3 is designed to create different “levels” of embarrassment by explicitly manipulating both purchase context (in-public vs. in-private) and primary basis of appraisal (violation of self-concept vs. violation of social norms), and then tests for its mediating effect on downstream behavioral intentions through a moderated-mediation model.

Study 3: Purchasing viagra for impotence versus pleasure

Study 2 illustrates some differences between public and private embarrassment in terms of accompanying physiological reactions and action tendencies. In study 3, we focus on behavioral intentions. Additionally, we examine if the purpose of a product (what it will be used for) can impact public versus private embarrassment differently. Again, we use imagination-based scenarios within a store (in-public) or online (in-private) purchase context.

Specifically, we use a purchase experience related to Viagra, a medication to treat erectile dysfunction, suggesting a potentially embarrassing purchase experience (Hensley, 2013). Viagra, interestingly, can be used for a second purpose – as a (sexual) pleasure enhancing drug. We use product purpose as the operationalization of the primary basis of appraisal (i.e., violation of self-concept vs. violation of social norms). We propose that while the medical purpose (we call this “impotence”) may violate one’s self-concept and create embarrassment in a situation of in-private purchase and self-appraisal, the “pleasure” purpose will not violate one’s self-concept (to the same extent) and will create lower (private) embarrassment. In a situation of in-public purchase and others’ potential appraisal, however, it will be the mere purchase of Viagra that will be the transgression violating social norms, and the purpose will matter little. Accordingly, the interplay of product purpose and purchase context allows us to focus on differentiating violation of self-concept from violation of social norms. As such, we hypothesize an interaction effect between purchase context (in-public vs. in-private) and product purpose (impotence vs. pleasure) on embarrassment so that product purpose impacts embarrassment in the in-private (online) context more than it does in the in-public (in-store) context. Furthermore, we propose that embarrassment will, in turn, result in a decrease in consumer’s behavioral intentions for the product, which was conceptually suggested but not tested by prior literature (Blair & Roese, 2013; Grace, 2009). Fig. 2 presents our conceptual moderated-mediation model for study 3.

Design

Three hundred and four male U.S. residents, above the age of 35, participated in the study from a large online panel ($M_{\text{age}} = 44$ years). We used men above the age of 35 since they reflect the product’s target market (Feldman, Goldstein, Hatzichristou, Krane, & McKinlay, 1994). We removed eleven participants from the study as they did not qualify on the attention check procedures, and another eight who reported sexual orientations other than heterosexual. (A Department of Health study shows sexual orientation influences likelihood to use Viagra recreationally (Salyer, 2004). Therefore, we limit

our sample to heterosexual participants.) Similar to study 2, we also removed participants who reported previous personal usage of the drug, which left us with a final sample of 237 participants. We used a 2 (purchase context: in-public vs. in-private) by 2 (product purpose: impotence – treating erectile dysfunction vs. pleasure – recreational usage to enhance sexual pleasure) between-subjects design.

Procedure and dependent variables

Participants were told that they would be presented with a purchase scenario that they should carefully review since we would ask them follow up questions. In the scenario descriptions, participants first read about product purpose (impotence vs. pleasure). Participants in the public context were then asked to imagine purchasing the product through a drugstore in a shopping mall; in the private context, participants were asked to imagine purchasing the product online in complete privacy (see Table 6a for further details of both manipulations).

Following the manipulations, we measured ‘intensity of embarrassment felt’ with the same three-item scale used in study 2 ($\alpha = .94$). Participants then responded to a two-item scale for behavioral intentions where they rated likelihood “to make a similar purchase in a similar context” and “to click ‘accept’ on a company e-newsletter” on 7-point scales anchored at “not at all likely” and “very likely” ($r = .45$; $p < .01$). We also measured intensity of sex drive as a control variable since it may affect behavioral intentions around the focal product, Viagra. For this measure, participants responded to the question “How strong is your sex drive” on a six-point scale (anchored at 1 = “extremely strong” and 6 = “absent”) (McGahuey et al., 2000). Finally, participants indicated their age and gender for descriptive purposes and to double check the screening process (males above the age of 35).

Results

Embarrassment

We ran an ANCOVA using our measure of intensity of embarrassment as the dependent variable, purchase context (public vs. private), product purpose (impotence vs. pleasure) and their interaction as the independent variables, and sex drive as the covariate (see Table 6b for means). We observed

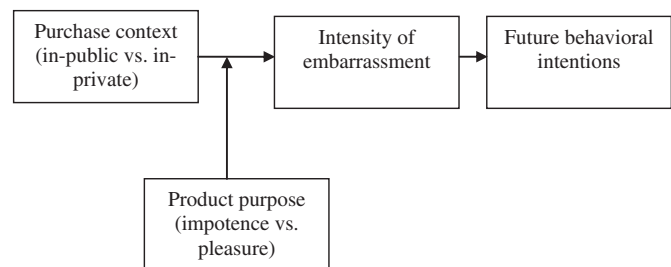


Fig. 2. Conceptual moderated-mediation model for the interactive effect of purchase context and product purpose on embarrassment and behavioral intentions (Study 3).

Table 6a
Study 3 instructions and scenarios.

Product purpose	
Buy Viagra to enhance pleasure	Buy Viagra because cannot perform otherwise
Imagine that you are interested in purchasing erectile dysfunction medicine for “recreational usage.” You have not experienced erectile dysfunction, but would like to purchase the product to enhance sexual pleasure and experiences. Fortunately, there are ways to enhance sexual pleasure - from medication, to behavioral changes, to a combination of both. You saw a recent commercial for Viagra, a leading medication that promises to enhance pleasure and is now being offered over-the-counter.	Imagine that you have been experiencing erectile dysfunction or impotence (the inability to develop or maintain an erection of the penis during sexual performance). The problem does not reflect any larger medical issues, but the inability to perform sexually still has a major impact on many aspects of your life. Fortunately, there are ways to deal with erectile dysfunction - from medication, to behavioral changes, to a combination of both. You saw a recent commercial for Viagra, a leading medication that treats erectile dysfunction and is now being offered over-the-counter.
Purchase context	
In-public context: in-store	In-private context: online
You go into a drugstore in a shopping mall and ask the salesperson at the counter for the product. The salesperson hands you the medication, which promises to enhance sexual pleasure, and you complete the transaction with the cashier.	You are shopping online for the product, which is available over-the-counter. You order the medication which promises to help you to maintain an erection during sexual performance. The order arrives and you open the box in the privacy of your home.

significant main effects for both product purpose ($M_{Impotence} = 4.94$; $M_{Pleasure} = 4.19$; $F(1,232) = 10.15$; $p < .01$) and purchase context ($M_{In-Public} = 5.10$; $M_{In-Private} = 3.99$; $F(1,232) = 22.01$; $p < .01$) as well as a significant interaction between the manipulated factors ($F(1,232) = 5.46$; $p < .05$). The sex drive covariate was not significant ($p > .6$). The significant main effects suggest that the intensity of embarrassment was higher when Viagra is purchased for impotence versus pleasure, and also higher when it is purchased in-public versus in-private. Following up on the significant interaction, planned contrasts showed that in the private context, the pleasure-related purpose was less embarrassing than the impotence-related purpose of purchasing the product ($M_{Impotence/In-Private} = 4.64$; $M_{Pleasure/In-Private} = 3.32$; $F(1,232) = 14.58$; $p < .01$). However, both intended purposes generated similar intensity of embarrassment when the product was purchased in public ($M_{Impotence/In-Public} = 5.20$; $M_{Pleasure/In-Public} = 5.00$; $p > .5$).

Consumers' behavioral intentions

We observed a negative and significant correlation between intensity of embarrassment felt and consumer behavioral intentions ($r = -.40$; $p < .01$). An ANCOVA with behavioral intentions as the dependent variable, purchase context, product purpose and their interaction as the dependent variables, and sex drive as the covariate showed no significant main effects for

purchase context ($p > .3$) or product purpose ($p > .1$). The sex drive covariate was also not a significant predictor of behavioral intentions ($p > .9$). As expected, we observed a significant interaction between purchase context and product purpose ($F(1,232) = 5.96$; $p < .05$). In line with our expectations, when purchasing in a private context, the less embarrassing pleasure-related use of the product led to improved consumer responses compared to the impotence-related use ($M_{Impotence/In-Private} = 3.11$; $M_{Pleasure/In-Private} = 3.89$; $F(1,232) = 7.16$; $p < .01$). However, there was no difference in consumer responses following the public purchase of the product for pleasure or impotence ($M_{Impotence/In-Public} = 3.41$; $M_{Pleasure/In-Public} = 3.21$; $p > .4$).

Moderated-mediation

We tested our moderated-mediation model with Hayes (2013) PROCESS macro with 10,000 bootstrapped samples (Preacher, Rucker, & Hayes, 2007; see also cf. model 7, Hayes, 2012). We used purchase context (in-public vs. in-private) as the independent variable, intensity of embarrassment as the mediator, behavioral intentions as the dependent variable, product purpose (impotence vs. pleasure) as the moderator, and sex drive as the covariate. As predicted, we found a moderating effect of product purpose on the relationship between purchase context and intensity of embarrassment ($\beta = 1.12$; $t = 2.34$;

Table 6b
Study 3 results.

	In-public context: in-store	In-private context: online
Buy Viagra to enhance pleasure	Violates social norm and self-concept n = 60 M (embarrassment) = 5.00 M (behavioral intentions) = 3.21	Violates social norm, but does not violate self-concept n = 56 M (embarrassment) = 3.32 M (behavioral intentions) = 3.89
Buy Viagra because cannot perform otherwise	Violates social norm and self-concept n = 64 M (embarrassment) = 5.20 M (behavioral intentions) = 3.41	Violates social norm and self-concept n = 57 M (embarrassment) = 4.64 M (behavioral intentions) = 3.11

$p < .05$). In other words, the first stage of the proposed mediation model was moderated by product purpose. Controlling for purchase context, intensity of embarrassment had a significant effect on consumers' behavioral intentions ($\beta = -.34$; $t = -6.65$; $p < .01$). Controlling for intensity of embarrassment, the direct effect of purchase context on consumers' behavioral intentions was not significant ($p > .3$). Probing the moderation of the indirect effect, as expected, we found a significant indirect effect of purchase context on consumers' behavioral intentions only when product was intended for pleasure (CI: $-.89$ to $-.31$), and not when it was intended for impotence (CI: $-.45$ to $.03$). As such, our moderated mediation model is supported.

Discussion

Study 3 suggests that purchasing a product that signals negative information about oneself (i.e., needing Viagra to improve a personal deficiency) is embarrassing whether one purchases it in public (e.g., in a physical store) or in private (e.g., online). But, when the product is purchased for pleasure use, embarrassment is lower if purchased in private versus in public. We believe this is because with others' presence (public context), the purpose of purchase does not matter – since others do not know what the purpose is. However, with others absent, and when self-appraisal likely drives embarrassment (category 4), the purpose does matter – pleasure use does not violate one's self-concept as much as impotence use does. This reasoning is also confirmed in a post-test with sixty three online participants with similar demographics as our study participants – online purchase of Viagra for pleasure use resulted in lower violation of self-concept versus for impotence use ($M_{Impotence} = 4.91$; $M_{Pleasure} = 4.07$; $F(1,61) = 5.04$; $p < .05$; violation of self-concept was measured with agreement to the statements of "This act is inconsistent with how I see myself" and "I think this act really isn't me" on seven-point scales; $r = .68$; $p < .01$).

General discussion

Embarrassment has typically been classified as a social emotion – where one violates a social norm in the presence of others and perceives loss of approval from others (e.g., Tangney et al., 1996). We suggest that embarrassment can also be a private emotion. The social definition of embarrassment represents just one category ("in-public, appraisal by others") in our proposed four-category typology of embarrassment. This typology has two underlying dimensions – social context (whether the transgression occurs in-public or in-private) and driving mechanism (whether others or the self predominantly appraises the transgression). Both the private social context and appraisal by self, lend an aspect of privacy to the other three categories of embarrassment – what we call "private embarrassment".

To build the typology, we draw upon prior research which recognizes that embarrassment can occur in the presence of "imagined" others (Dahl et al., 2001; Miller & Leary, 1992), and also upon Babcock's (1988) "personal account" of embarrassment where violation of one's persona and the appraisal of this violation results in embarrassment.

Our first study presents supporting evidence for our proposed typology. We collect a repertoire of embarrassing transgressions that fall into all four categories of our typology. We show that the intensity of embarrassment felt (as a remembered emotion) following these transgressions is similar across the in-public and in-private contexts and that the set and intensity of accompanying emotions are also similar.

While study 1 is focused on establishing the similarity of private embarrassment to public embarrassment, studies 2 and 3 focus on demonstrating the differences while also replicating the similarities shown in study 1. In study 2, we use the purchase of an incontinence drug as a potentially embarrassing experience, and we manipulate the in-public and in-private purchase context and self- and other-appraisal of the experience to provide empirical evidence for key differences in physiological reactions and actions tendencies between public and private embarrassment, as characterized by the four categories of our typology. In study 3, we again manipulate the purchase context (in-public vs. in-private) but also manipulate the product purpose. We focus on purchasing Viagra for impotence versus pleasure. We find that for those purchasing the drug in public, product purpose has no impact on embarrassment, but for those purchasing Viagra in private, embarrassment is lower when the product purpose is for pleasure-use versus to overcome a personal deficiency (i.e., to treat impotence). We also show that higher embarrassment results in lower consumer behavioral consequences. Importantly, in both studies 2 and 3, we show that embarrassment is possible even when consumers make purchases online.

Aside from this theoretical focus, our research also has real world implications for managers and public policy officials. Embarrassment is a familiar and widely occurring emotion (Dahl et al., 2001), which affects many facets of life. It has been shown to frequently guide people's actions (or inactions) as it plays an important role in maintaining personal identity (e.g., Miller, 1995; Miller & Leary, 1992). For example, researchers have found that many men are so afraid of damaging their image that they deny any knowledge of treatments for impotence, such as using Viagra, affecting Pfizer's sales each year (Rubin, 2004). Individuals can also experience embarrassment, and be affected by it, across a variety of consumer behavior contexts. For example, embarrassment can occur during purchase (e.g., purchasing a product like condoms), in usage or service encounter situations (e.g., having one's credit card denied while paying the bill at a fancy restaurant), and even during disposition (e.g., returning an adult video; Dahl et al., 2001; Verbeke & Bagozzi, 2002).

To circumvent the negative effects of embarrassment, many companies offer personal and/or undisclosed modes of purchase. Online shopping is a typical example where online stores or special websites such as www.shopinprivate.com promise customers a "safe-haven from embarrassment" (Kumar, 2008). Other tactics include minimizing social interaction through store layout or self-checkout systems. Promoting a new in-home testing kit for sexually transmitted diseases that can be ordered online, a public health worker states, "They don't want somebody thinking they might have something. We tell them...you shouldn't be thinking about what anyone else feels" (Allday, 2012).

Some prior research (e.g., Dahl et al., 2001) has suggested that there will be little embarrassment in online purchasing of sensitive products. However, the results of studies 2 and 3 suggest that embarrassment can be felt even in online purchases of sensitive products, but that the accompanying physiological reactions and action tendencies are different from public embarrassment. Our results, therefore, suggest to sellers of sensitive products that even for online purchases, they need to make the consumer feel comfortable purchasing the sensitive product. Thus, promoting home testing kits online is perhaps not the most effective way to encourage consumers to seek help and reduce spreading of the disease. Instead, marketers and public policy makers could focus on trying to reshape consumers' own self-concepts as well as cultural norms related to STDs and other potentially embarrassing purchase situations (e.g., purchasing condoms). Study 3 shows that in the online context, embarrassment (and consequently behavioral intentions) is affected by the purpose of the purchase. If managers of online stores can make the purpose appear such that it does not violate one's self-concept, it could conceivably lower embarrassment and hence increase purchase.

In our studies (studies 2 and 3), we use hypothetical scenarios – however, participants still report feeling embarrassed. One would imagine that the emotion would only be stronger in the real world. Thus, the studies may be a conservative test of private embarrassment. While we tried to be comprehensive, for the sake of exposition clarity, we could not cover all scenarios of embarrassment. Thus, our typology does not include the situation where one commits a transgression in front of others who see it, but still engages in self-appraisal; or considers this a violation of self-concept and not of a social norm. We feel that these possibilities are less likely than the violator using others' appraisal – considering this a violation of a social norm.

This research was focused on studying transgressions that lead to public or private embarrassment. Therefore, the scope of our research falls within potentially embarrassing purchase contexts. Consumers also purchase certain products or services with the aim of minimizing embarrassment that might ensue elsewhere. For instance, a teenager with acne problems might use a concealer to mitigate public embarrassment; a woman who does not find her breast size to be in line with her persona can go through aesthetic surgery to mitigate public or private embarrassment. There is need for more systematic research directed towards understanding the consequences of embarrassment, as well as its causes, within both public and private purchase contexts.

Finally, our theoretical framework and results suggest implications for the broader emotions literature, since other emotions also exhibit different characteristics between in-public and in-private contexts. For instance, future research could consider how other emotions such as pride might be experienced differently depending on whether or not the triggers are publicly observable (and appraised).

References

Allday, E. (2012). *STP home tests avoid embarrassment*. San Francisco Chronicle, 04.27, A1.

- Babcock, M. K. (1988). Embarrassment: A window on the self. *Journal for the Theory of Social Behaviour*, 18(4), 459–483.
- Babcock, M. K., & Sabini, J. (1990). On differentiating embarrassment from shame. *European Journal of Social Psychology*, 20(2), 151–169.
- Blair, S., & Roese, N. (2013). Balancing the basket: The role of shopping basket composition in embarrassment. *Journal of Consumer Research*, 40(4), 676–691.
- Buss, A. H. (1980). *Self-consciousness and social anxiety*. San Francisco: W. H. Freeman.
- Dahl, D. W., Manchanda, R. V., & Argo, J. J. (2001). Embarrassment in consumer purchase: The role of social presence and purchase familiarity. *Journal of Consumer Research*, 28(3), 473–481.
- Duval, S., & Wickland, R. A. (1972). *A theory of objective self-awareness*. New York: Academic Press.
- Edelmann, R. J. (1981). Embarrassment: The state of research. *Current Psychological Reviews*, 1, 125–138.
- Edelmann, R. J. (1985). Individual differences in embarrassment: Self-consciousness, self-monitoring and embarrassability. *Personality and Individual Differences*, 6(2), 223–230.
- Edelmann, R. J. (1987). *The Psychology of Embarrassment*. Chichester, UK: Wiley.
- Feldman, H. A., Goldstein, I., Hatzichristou, D. G., Krane, R. J., & McKinlay, J. B. (1994). Impotence and its medical and psychological correlates: Results of the Massachusetts male aging study. *Journal of Urology*, 151, 54–61.
- Frijda, N. H. (1987). Emotions, cognitive structure and action tendency. *Cognition and Emotion*, 1, 115–144.
- Gale, A., Morris, P. E., Lucas, B., & Richardson, A. (1972). Types of imagery and imagery types: An EEG study. *British Journal of Psychology*, 63(4), 523–531.
- Goffman, E. (1955). On facework. *Psychiatry*, 18, 213–231.
- Goffman, E. (1956). Embarrassment and social organization. *American Journal of Sociology*, 62, 264–271.
- Grace, D. (2009). An examination of consumer embarrassment and repatronage intentions in the context of emotional service encounters. *Journal of Retailing and Customer Services*, 16, 1–9.
- Gray, J. A. (1990). Bran systems that mediate both emotion and cognition. *Cognition and Emotion*, 4(3), 269–288.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hensley, S. (2013). *Pfizer goes direct with online Viagra sales to men*. National Public Radio Health Inc (<<http://www.npr.org/blogs/health/2013/05/06/181577694/pfizer-goes-direct-with-viagra-sales-to-men>>).
- Izard, C. E., Libero, D. Z., Putnam, P., & Haynes, O. M. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, 64(5), 847–860.
- Katsarou-Katsari, A., Filippou, A., & Theoharides, T. C. (1999). Effect of stress and other psychological factors on the pathophysiology and treatment of dermatoses. *International Journal of Immunopathology and Pharmacology*, 12(1), 7–11.
- Kaufman, G. (1989). *The psychology of shame: Theory and treatment of shame-based syndromes*. New York: Springer.
- Klass, E. T. (1990). Guilt, shame, and embarrassment: Cognitive-behavioral approaches. In H. Leitenberg (Ed.), *Handbook of social and evaluative anxiety*. New York: Plenum.
- Kumar, R. (2008). How embarrassing: An examination of the sources of consumer embarrassment and the role of self-awareness. *Advances in Consumer Research*, 35, 1006–1007.
- Leary, M. R. (1995). *Self-presentation: Impression management and interpersonal behavior*. Madison, WI: Brown & Benchmark.
- Leary, M. R., & Kowalski, R. M. (1995). *Social anxiety*. New York: Guilford Press.
- Manstead, A. S., & Semin, G. R. (1981). Social transgressions, social perspectives, and social emotionality. *Motivation and Emotion*, 5(3), 249–261.
- McGahuey, C. A., Gelenberg, A. J., Laukes, C. A., Moreno, F. A., Delgado, P. L., Mcknight, K. M., et al. (2000). The Arizona Sexual Experience Scale

- (ASEX): Reliability and validity. *Journal of Sex & Marital Therapy*, 26, 25–40.
- Miller, R. S. (1995). On the nature of embarrassability: Shyness, social evaluation, and social skills. *Journal of Personality*, 63(2), 315–339.
- Miller, R. S. (1996). *Embarrassment: Poise and Peril in Everyday Life*. New York: Guilford.
- Miller, R. S., & Leary, M. R. (1992). Social sources and interactive functions of emotion: The case of embarrassment. In M. S. Clark (Ed.), *Emotion and Social Behavior* (pp. 202–221). Newbury Park, CA: Sage.
- Miller, R. S., & Tangney, J. P. (1994). Differentiating embarrassment and shame. *Journal of Social and Clinical Psychology*, 13, 273–287.
- Modigliani, A. (1968). Embarrassment and embarrassability. *Sociometry*, 31(3), 313–326.
- Modigliani, A. (1971). Embarrassment, facework, and eye contact: Testing a theory of embarrassment. *Journal of Personality and Social Psychology*, 17(1), 15–24.
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. Cambridge, England: Cambridge University Press.
- Parrott, W. G., Sabini, J., & Silver, M. (1988). The roles of self-esteem and social interaction in embarrassment. *Personality and Social Psychology Bulletin*, 14, 191–202.
- Parrott, W. G., & Smith, S. F. (1991). Embarrassment: Actual and typical cases, classical vs. prototypical representations. *Cognition and Emotion*, 5, 467–488.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227.
- Roseman, I. J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, behaviors, and goals differentiate discrete emotions. *Journal of Personality and Social Psychology*, 67(2), 206–221.
- Rubin, R. (2004). Men talking about Viagra: An exploratory study with focus groups. *Men and Masculinities*, 7(1), 22–30.
- Sabini, J., Siepmann, J., Stein, J., & Meyerowitz, M. (2000). Who is embarrassed by what? *Cognition and Emotion*, 14(2), 213–240.
- Salyer, D. (2004). *The dangers of using and abusing Viagra*. The Body, (November–December) (<http://www.thebody.com/content/art32246.html>).
- Semin, G. R., & Manstead, A. S. R. (1982). The social implications of embarrassment displays and restitution behavior. *European Journal of Social Psychology*, 12, 367–377.
- Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology*, 52(6), 1061–1086.
- Shearn, D., Bergman, E., Hill, K., Abel, A., & Hinds, L. (1992). Blushing as a function of audience size. *Psychophysiology*, 29(4), 431–436.
- Singh, J., Goolsby, J. R., & Rhoads, G. K. (1994). Behavioral and psychological consequences of boundary spanning burnout for customer service representatives. *Journal of Marketing*, 58–569.
- Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, 48(4), 813–838.
- Tangney, J., Miller, R. S., Flicker, L., & Barlow, D. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology*, 70(6), 1256–1269.
- VandenBos, G. R. (2006). *APA dictionary of psychology*. Washington, DC: American Psychological Association.
- Verbeke, W., & Bagozzi, R. P. (2002). A situational analysis on how salespeople experience and cope with shame and embarrassment. *Psychology & Marketing*, 19(9), 713–741.